

Appl. No. 10/710,580
Amtd. dated January 13, 2006
Reply to Office action of October 13, 2005

REMARKS/ARGUMENTS

This paper is in response to a non-final Office action. There are 20 claims pending in the current application. The Applicant has amended claims 1, 9, and 17. No new material has been introduced. Reconsideration of claims 1-20 is respectfully requested.

- 5 Claims 1, 3-4, 9, 13-14, and 17 are rejected under 35 U.S.C. 102(e) as being anticipated by Guiles et al., U.S. Patent No. 6,703,114. Claims 2, 10, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Guiles et al. in view of O'Neill, Jr., U.S. Patent No. 5,969,681. Claims 5-8, 10-12, 15-16, and 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Guiles et al. in view of Tillery et al., U.S. Pub. No.
- 10 2004/0150561.

Guiles et al. does teach a "substantially water impervious membrane" 2 between the radiating element and the dielectric layer 3 that protects the dielectric element from aqueous and/or organic media that are typically associated with the manufacturing of etched printed circuit boards (Col.4, lines 56-60). As described above, the use of the water impervious membrane 2 in Guiles' patent excludes the use of roughening the surface of the dielectric layer as disclosed in the present invention. While the Applicant does not believe that one skilled in the art would necessarily agree that a "substantially water impervious membrane" is the same thing, structurally or functionally, as a polymeric "surfactant" (Claims 5, 12, 17), has chosen rather to point out that regardless of the definition of the "priming layer", the cited prior art still would appear to differ structurally from the claimed invention.

Paragraph [0027] of the present application states that in cold weather, due primarily to the very flat and somewhat oily surface of a polymer plastic dielectric layer, an adhesive applied to the surface of the dielectric layer can become detached from the dielectric layer if bumped. The solution to this problem is the priming layer of the claimed invention. The priming layer prepares the surface of the dielectric layer so that an adhesive later applied to the priming layer will better retain its adhesion to the priming layer in cold weather. Paragraph [0029] describes the priming layer more fully and in

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conjunction with Figs. 2, and 5-7 clearly indicate that the priming layer is applied directly to and is in full contact with the dielectric layer.

On the other hand, Guiles et al. does not address this problem and continues to apply adhesive 7 directly to the surface of the dielectric layer 3, with the Examiner cited 5 "substantially water impervious membrane" 2 applied to the first surface of the adhesive layer 7 (Figs.1-4), and does not meet the claimed limitation, structurally or functionally.

The Applicant amended Claims 1, 9, and 17 to recite that the priming layers contact the first and second surfaces of the dielectric layer, and therefore, the claimed invention is not anticipated by Guiles' disclosure. Claims 1 and 17 have been amended to read that the 10 priming layer is "contacting" the dielectric layer and claim 9 reads that the priming layer is applied to the surface of the dielectric layer. These amendments are supported by Paragraphs [0027], [0029], and Figs.2 and 5-7 and no new material has been introduced.

The Examiner erred in deeming that Claims 3, 13, and 19 are anticipated by Guiles' patent in column 14 and line 27. According to Guiles' patent cited by the Examiner, the 15 Polystyrenes is preferred to form the "substantially water impervious membranes 2" (Col. 4, lines 5-8 and 22-27) rather than the dielectric layer. Hence, the Examiner did not establish prima facie evidence to show the anticipation of Claims 3, 13, and 19.

The Applicant also notices that Guiles' patent repeatedly emphasizes on how to manufacture the laminate structure with a lower dielectric constant (Col. 1, lines 25-38), 20 and however, the present application is devoted to providing improved adhesion of the adhesive layer to the dielectric layer for resolving the reduction of the dielectric constant of the antenna resulted from the low dielectric constant of the air. Guiles' patent further states the disadvantages of using the material with high dielectric constant as the dielectric layer and promotes a structure to reducing the dielectric constant by using a 25 structural foam which has void volume as the dielectric layer (Col. 5, lines 23-30). As described above, the present invention provides a structure to roughen the interfaces and to reduce the void volume between the layers, and Guiles' patent oppositely suggests a foam structure with void volume. Because of the different objects and intentions of

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Guiles' and Applicant's invention, the Applicant believes that Guiles' patent and the present application are conceptional different and could not be anticipated by each other.

Also, the further inference of combining other structure describing the use of low dielectric constant and Guiles' patent is unreasonably diverted form an important

5 suggestion of Guiles' patent.

The Applicant has shown a clear structural difference between the current claims and known prior art. While withholding positions on other Examiner comments concerning other claims, because the allowability of all dependent claims ultimately depends upon the patentability of respective base claims, the Applicant respectfully requests reconsideration of
10 claims 1-20 and that a timely Notice of Allowance be issued in this case.

Sincerely yours,

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Winston Hsu

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Winston Hsu, Patent Agent No. 41,526

P.O. BOX 506, Merrifield, VA 22116, U.S.A.

Voice Mail: 302-729-1562

20 Facsimile: 806-498-6673

e-mail : winstonhsu@naipo.com

Note: Please leave a message in my voice mail if you need to talk to me. (The time in D.C. is 13 hours behind the Taiwan time, i.e. 9 AM in D.C. = 10 PM in Taiwan.)